

The following is a complete listing of all claims in the application, with an indication of the status of each:

**Listing of claims:**

- 1 (Currently amended). A method of producing a carbon nanotube, comprising:  
preparing a carbon nanotube by introducing a catalyst substance into a carbon structure;  
making ~~the~~ said catalyst substance move in ~~the~~ said carbon structure; and  
crystallizing ~~the~~ a trail region of movement of said catalyst in said carbon structure,  
wherein said step of crystallizing converts said trail region to said carbon nanotube.
- 2 (Currently amended). The method of producing a carbon nanotube according to Claim 1,  
wherein said crystallizing said ~~carbon structure~~ trail region is performed after said carbon  
structure is fixed on a predetermined position of ~~said~~ a substrate.
- 3 (Previously presented). The method of producing a carbon nanotube according to claim 1,  
wherein said carbon structure is heated when said catalyst substance is moved in said carbon  
structure.
- 4 (Original). The method of producing a carbon nanotube according to claim 3, wherein at  
least a part of said catalyst substance is liquefied by heating said carbon structure.
- 5 (Currently amended). The method of producing a carbon nanotube according to claim 1,  
wherein said carbon structure is formed by a vapor-phase deposition method of using a charged  
particle beam as an excitation source.
- 6 (currently amended). The method of producing a carbon nanotube according to claim 1,  
wherein said carbon structure is prepared by a vapor-phase deposition method of using an  
aromatic hydrocarbon compound as a precursor material.

7 (Previously presented). The method of producing a carbon nanotube according to claim 1, wherein said carbon structure is a resist pattern.

8 (Previously presented). The method of producing a carbon nanotube according to claim 1, wherein said carbon structure is a linear structure and said catalyst substance is moved along said carbon structure.

9 (Previously presented). The method of producing a carbon nanotube according to of claim 8, wherein said catalyst substance is a catalyst particle and the diameter of said catalyst particle is 0.5 to 3 times as large as the diameter of said linear structure.

10 (Currently amended). A method of producing a carbon nanotube, comprising:

preparing a substrate;

forming a carbon structure at a position separated from ~~the~~ a surface of the substrate;

preparing a carbon nanotube by making ~~the~~ a catalyst substance move in the carbon structure; and

crystallizing ~~the~~ a trail region of movement of said catalyst in said carbon structure,  
wherein said step of crystallizing converts said trail region to said carbon nanotube.

11 (Original). The method of producing a carbon nanotube according to claim 10, wherein said carbon structure is heated when said catalyst substance is moved in the carbon structure.

12 (Original). The method of producing a carbon nanotube according to claim 11, wherein at least part of said catalyst substance is liquefied by heating said carbon structure.

13 (Currently amended). The method of producing a carbon nanotube according to claim 10, wherein said carbon structure is formed by a vapor-phase deposition method of using a charged particle beam as an excitation source.

14 (Currently amended). The method of producing a carbon nanotube according to claim 10, wherein said carbon structure is prepared by a vapor-phase deposition method of using an aromatic hydrocarbon compound as a precursor material.

15 (Previously presented). The method of producing a carbon nanotube according to claim 10, wherein said carbon structure is a resist pattern.

16 (Currently amended). A method of producing a transistor, comprising

forming a carbon nanotube structure by

introducing a catalyst substance into a carbon structure;

making said catalyst substance move in said carbon structure; and

crystallizing a trail region of movement of said catalyst in said carbon structure, wherein said step of crystallizing converts said trail region to said carbon nanotube structure;

forming a source electrode and a drain electrode on both ends of ~~the~~ said carbon nanotube structure, respectively[,]; and

forming ~~additionally~~ a gate electrode ~~after forming a carbon nanotube structure by the method according to claim 1~~ on said carbon nanotube structure.

17 (Previously presented). A method of producing a wiring structure of carbon nanotube, comprising

forming a carbon nanotube structure by ~~the method according to claim 1~~

introducing a catalyst substance into a carbon structure;

making said catalyst substance move in said carbon structure; and

crystallizing a trail region of movement of said catalyst in said carbon structure, wherein said step of crystallizing converts said trail region to a carbon nanotube.

18-23. (Canceled)

24 (New). A method of producing a transistor, comprising

forming a carbon nanotube structure by

preparing a substrate;

forming a carbon structure at a position separated from a surface of said substrate;

preparing a carbon nanotube by making a catalyst substance move in said carbon structure; and

crystallizing a trail region of movement of said catalyst in said carbon structure, wherein said step of crystallizing converts said trail region to said carbon nanotube structure;

forming a source electrode and a drain electrode on both ends of said carbon nanotube structure, respectively; and

forming a gate electrode on said carbon nanotube structure.

25 (New). A method of producing a wiring structure of carbon nanotube, comprising

forming a carbon nanotube by

preparing a substrate;

forming a carbon structure at a position separated from a surface of said substrate;

preparing a carbon nanotube by making a catalyst substance move in said carbon structure; and

crystallizing a trail region of movement of said catalyst in said carbon structure, wherein said step of crystallizing converts said trail region to said carbon nanotube.